



Puget Sound Nutrient Modeling

Model Selection Technical Advisory Committee
Kickoff Meeting
October 16, 2008

Agenda

- Welcome
- Introductions
- Project Background
- Model Selection Technical Advisory Committee Roles and Expectations
- Model Selection Schedule
- Next Meeting
- *Questions?*

Project Team

- Andrew Kolosseus – *WQ Lead* (Ecology/WQP)
- Mindy Roberts – *Project Manager* (Ecology/EAP)
- Brandon Sackmann – *Model Lead* (Ecology/EAP)
- Tarang Khangaonkar – *Hydrodynamic and Water Quality Model* (Pacific Northwest Labs/Battelle)
- Ben Cope – *EPA Lead* (EPA/Region X)

Model Selection Technical Advisory Group

- **need names from Andrew**



Project Background

Mindy Roberts

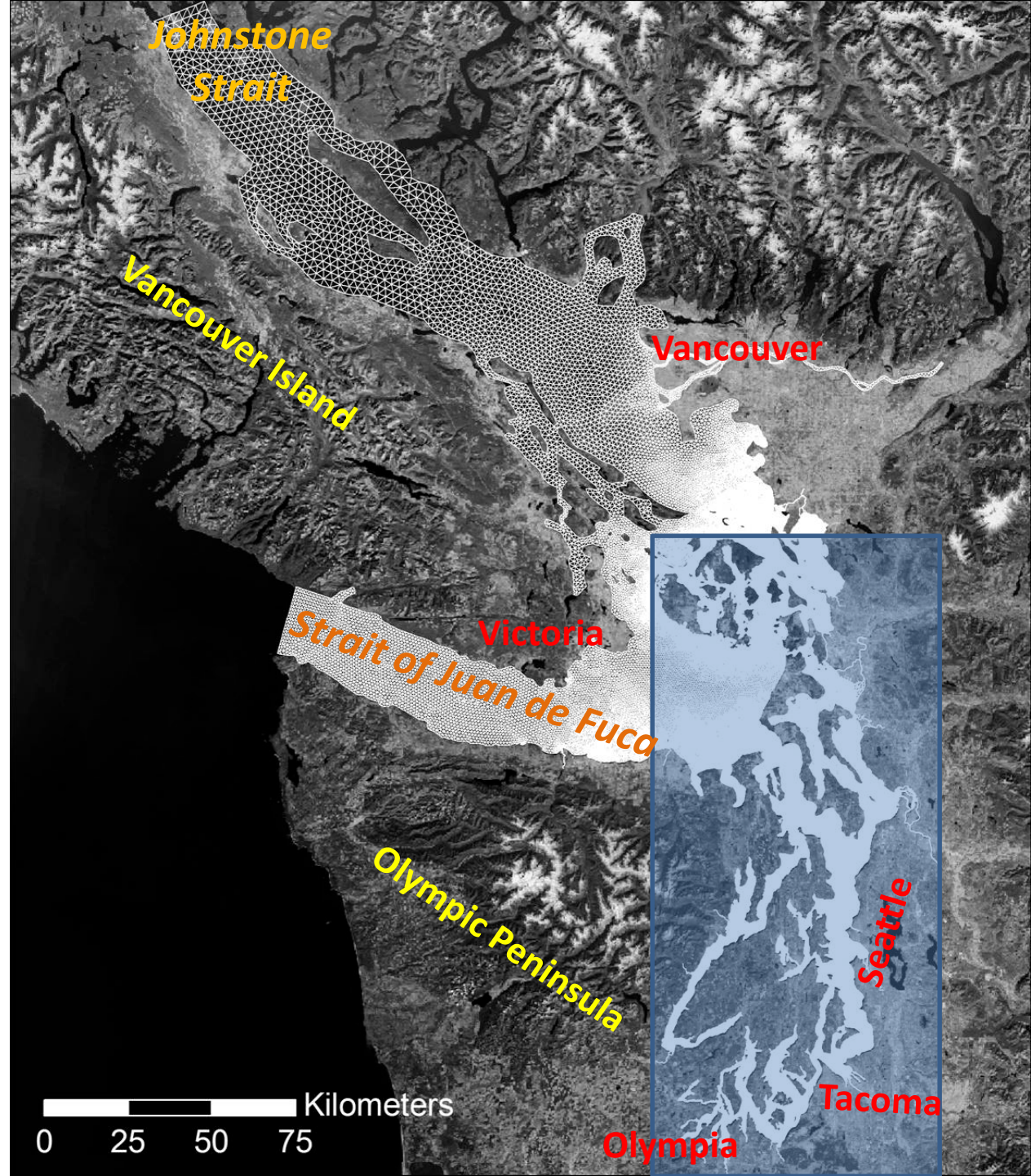
Project Objectives

- Are current nitrogen loads from point and nonpoint sources impacting water quality significantly?
- If so, what reductions are necessary to reduce human impacts in sensitive areas to acceptable levels?

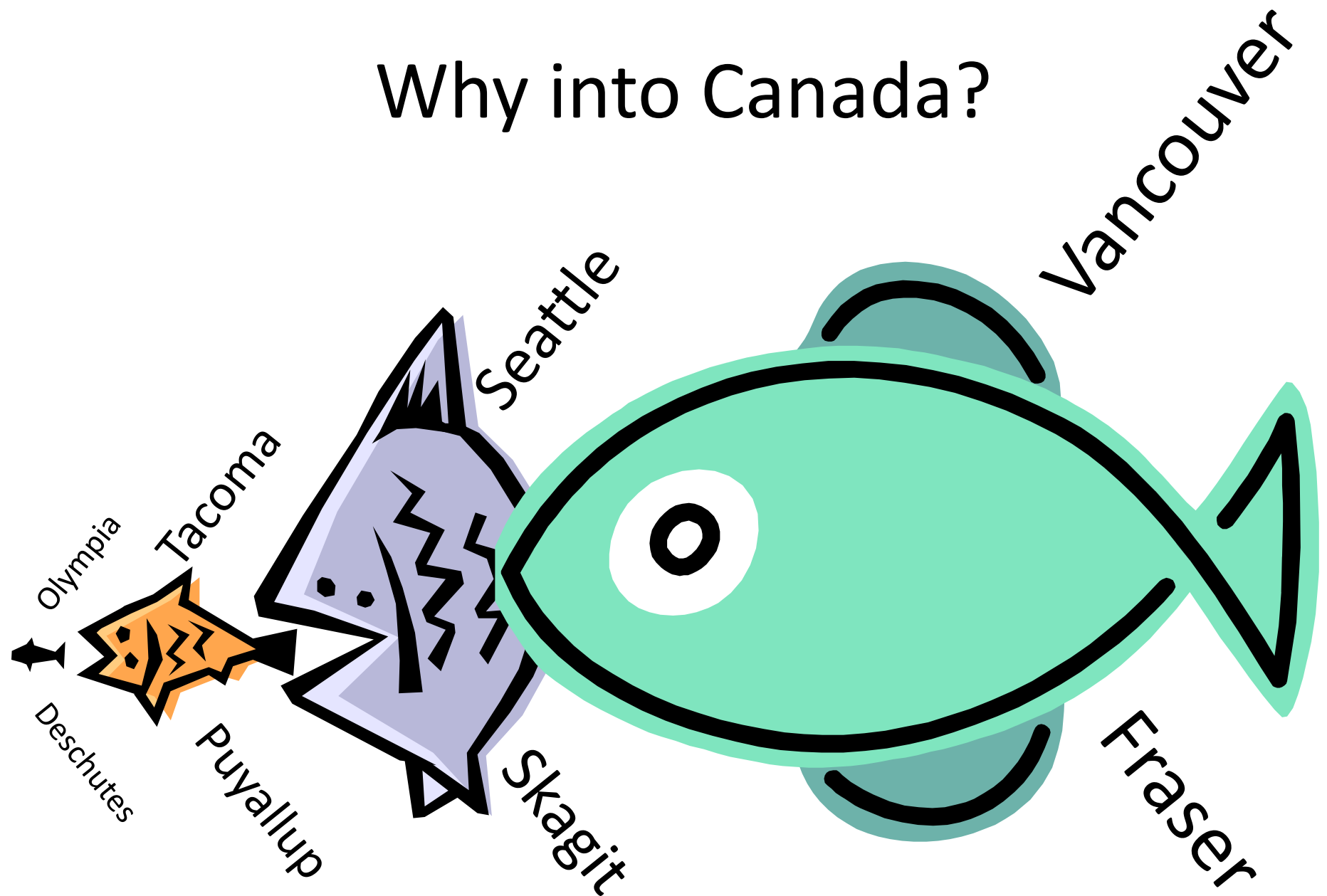
Parallel Paths/Other Efforts

- Part of a larger strategy addressing regulatory issues throughout Puget Sound...
 1. This effort: *If current sources are a problem, is it overall or localized? Areas of influence?*
 2. Detailed (model + data) studies:
 - South Puget Sound (ongoing)
 - Budget request to legislature (next?)
 - TMDLs as needed to set load, wasteload allocations
 3. Technology: What is the state of wastewater treatment technology?

Domain?



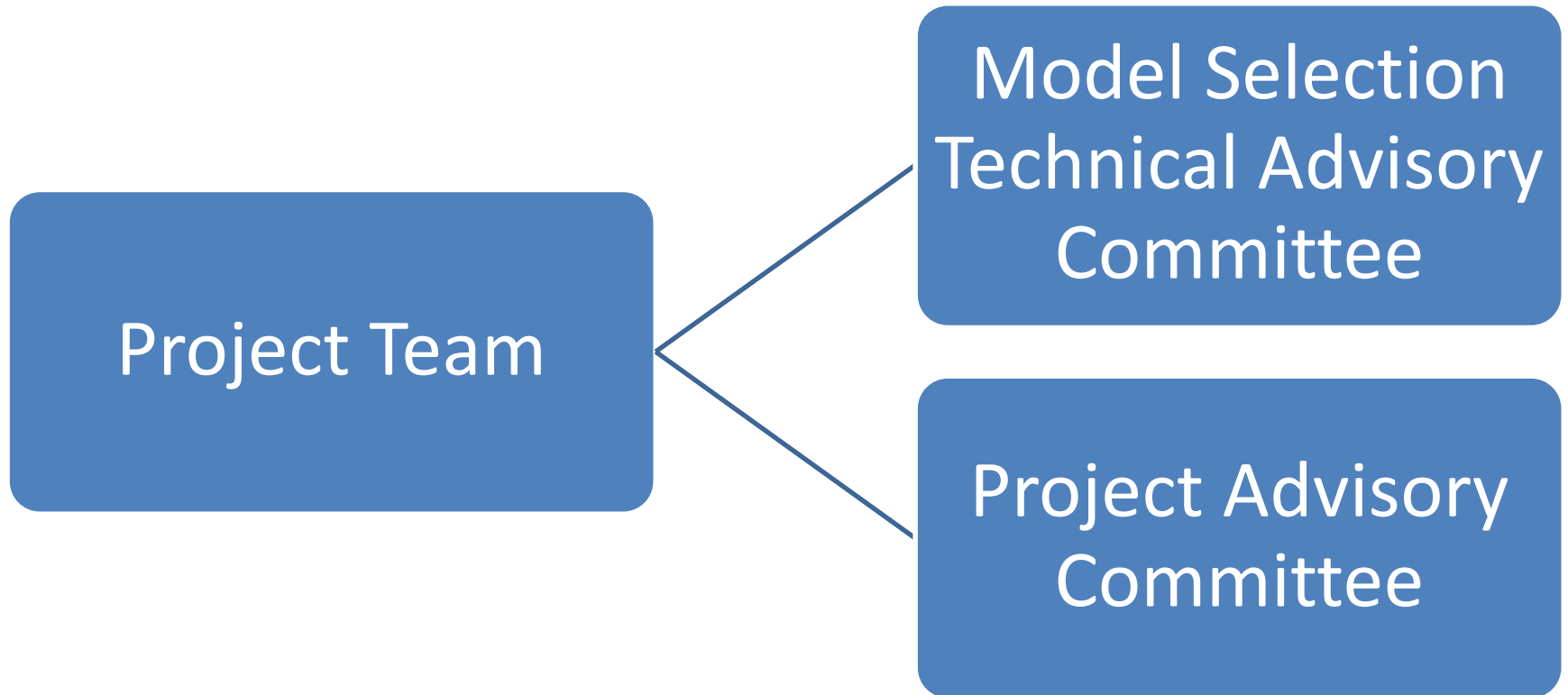
Why into Canada?



Funding

- \$740,000 over two years
 - Part of Puget Sound initiative
 - From EPA \$20m to support Puget Sound Partnership
 - \$3-5m set aside for immediate science needs
 - Includes \$340,000 contract with Battelle
 - Includes purchase of computer cluster
 - Remote access to be developed

Organization



Project Tasks

1. Establish Model Selection TAC and Project AC
2. Ecology develops Box Model
3. **PNNL, Ecology, and EPA develop intermediate-scale hydrodynamic and water quality model**
4. Ecology develops subsequent project plan for next detailed study

Model Selection Technical Advisory Committee Roles and Expectations



Role of Model Selection TAC

- Fall 2008:
- Review QA Project Plan and provide input on modeling approach given project goals and resources, including:
 - Key processes needed in the model
 - Extent of model domain
 - Level of detail (e.g., small tributaries, sources)
 - Model framework comparison (pros/cons)
 - Wider model applicability - other Sound projects

Role of Model Selection TAC continued...

Summer 2009:

- Review model development and calibration reports
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Expected Intensity

- In Fall 2008:
 - **Low**—this and one other meeting
 - **High**—QA Project Plan
 - **Low**—Quarterly progress reports (informal)
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- In Summer 2009:
- **Moderate**—Draft findings
 - Calibration/verification
 - Scenario results

Existing Project Constraints

- No* new data collection
- No new hydrodynamic or water quality model **software** development
- Computer run time goals (govern spatial and temporal scale)
- Budget/schedule constraints

* Adding TOC and DOC to ambient monitoring in major rivers to fill known gap.

What else is going on?

- Project Advisory Committee
 - Upcoming invitations
- Technological and Economic Evaluation of Nutrient Removal Technologies
 - Ecology Water Quality Program and National EPA
 - Evaluate alternative nutrient control technologies
 - Does not include marine water quality benefits, but will benefit from the proposed Puget Sound Nutrient Modeling tools

Questions to Model Selection TAC:

- What would you like to know about...
 - Puget Sound in general
 - Information available on boundary conditions
 - Information on dominant internal processes
 - Model capabilities/limitations comparison
- ... to plan for the next meeting

Model Selection Schedule



Schedule Highlights

Dates	Item
tbd	Model Selection TAC meeting
Fall 2008	Review QA Project Plan for intermediate-scale model
ongoing	Track quarterly progress reports
Summer 2009	Review hydrodynamic model report via Project Advisory Group representative
Winter 2009	Review water quality findings via Project Advisory Group representative

Questions?

- Project?
- Role of Model Selection Technical Advisory Committee?
- Schedule?

Schedule Model Selection Workshop

Andrew Kolosseus

Logistics

- Date
- Time
- Location
- Remote attendance options